UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,462	01/12/2006	Jeroen Martijn Van Vugt	PTT-181/APP(402895US)	7479

7265 7590 12/01/2006		EXAMINER
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P.O. BOX 8489		
RED BANK, NJ 07701	ART UNIT	PAPER NUMBER
	2618	

DATE MAILED: 12/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

    A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
    WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
    - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
      after SIX (6) MONTHS from the mailing date of this communication.
    - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
    - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
      Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
      earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 January 2006*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
      closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

       4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

       Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

       Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

       a)☐ All   b)☐ Some * c)☐ None of:

       1.☐ Certified copies of the priority documents have been received.

       2.☐ Certified copies of the priority documents have been received in Application No. _____.

       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
            application from the International Bureau (PCT Rule 17.2(a)).

       * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
       Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
       Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2.   Claims 1, 2, 5-9 and 12-14 are rejected under 35 U.S.C. 102(b) as being

anticipated by Appel et al (EP 1206104), provided in the IDS filed on 1/12/06.

-Regarding to claim 1, see figures 1, 3-5, and [0019-0032], Appel et al

discloses a method for measuring a talking quality of a communication link

(comprising (10) (see figure 1)) in a communications network, the method (see

figure 3) comprising:

a main step (comprising (31)) of subjecting a degraded speech signal

(s'(t)) with respect to a reference speech signal (s(t)) to an objective

measurement technique (32) for measuring a perceptual quality of speech

signals (s(t), (s'(t)), and producing a quality signal (q) which represents an

estimated value concerning the talking quality degradation; the degraded

speech signal (s'(t)) comprising a returned signal (r(t)); in which the objective

measurement technique comprises a step (40, 41, 42) of modeling masking

effects in consequence of noise present in the returned signal comprising the

determination of a threshold noise level (T(ne)), by determining a local

minimum noise value (Ne) of the degraded speech signal (s'(t)) (see [0019–

0028]).

-Regarding to claim 2, Appel et al discloses that the reference speech

signal s(t) comprises a silence period and the threshold noise level is

determined in the part of the degraded speech signal s'(t) corresponding to the

silence period among "silent intervals" in the reference speech signal s(t) (see

[0025]).

-Regarding to claim 5, Appel et al discloses that the threshold noise level

is estimated as local minimum values (T(Ne)) of successive parts "frames" of the

degraded speech signal s'(t) (see [0025–0026]).

-Regarding to claim 6, in Appel et al, the threshold noise level is

estimated as the local minimum value of the degraded speech signal s'(t) in a

predefined value range which corresponds to the range of estimated noise

value (Ne) in a relationship of $T(Ne)=C_f.Ne$ (see 0027]).

-Regarding to claim 7, Appel et al discloses that the main step

comprises: a first processing step (39) of processing the degraded speech

signal s'(t) and generating a first representation signal R'(t,f); a second

processing step (38) of processing the reference speech signal s(t) and

generating a second representation signal R(t,f); a step (32a) of subtracting the

first representation signal from the second representation signal as to produce

a difference signal D(t,f); a first substep (41) of producing an estimated value

Ne of the loudness of the noise present in the returned signal; and a second

substep (42) of noise suppression carried out on the difference signal using

said produced estimated value Ne as to produce the modified difference signal

D'(t,f); and a step (32c) of integrating the modified difference signal D'(t,f) with

respect to frequency and time as to produce the quality signal q (see figure 3).

-Regarding to claim 8, as similarly applied to claims 1, 2, 5-7, set forth

above and herein incorporated, see figures 1, 3-5, and [0019-0032], Appel et

al discloses a device for measuring a talking quality of a communication link

(comprising (10)) (see figure 1) in a communications network, the device

comprising measurement means connected to the communication link, the

measurement means being arranged to subject a degraded speech signal s'(t)

(see figure 3) with respect to a reference speech signal s(t) to an objective

measurement technique for measuring a perceptual quality of speech signals,

and producing a quality signal (q) which represents an estimated value

concerning the talking quality degradation; the degraded speech signal

comprising a returned signal r(t); in which the measurement means are

arranged to execute the objective measurement technique by modelling

masking effects in consequence of noise present in the returned signal in which

the objective measurement technique comprises the determination of a

threshold noise level by determining a local minimum value of the degraded

speech signal s'(t).

-Claim 9 is rejected with similar reasons set forth for claim 2.

-Claim 12 is rejected with similar reasons set forth for claim 5.

-Claim 13 is rejected with similar reasons set forth for claim 6.

-Regarding to claim 14, Appel et al discloses first processing means (39)

for processing the degraded speech signal s'(t) and generating a first

representation signal R'(t,f), the first representation signal R'(t,f) being a

representation signal of a signal combination of the talker speech signal and

the returned signal; second processing means (38) for processing the talker

speech signal s(t) and generating a second representation signal R(t,f);

combining means (32) for combining the first and second representation

signals as to produce said output signal q, the combining means including

subtracting means (40) for subtracting the first representation signal from the

second representation signal as to produce a difference signal D(t,f); modelling

means (41, 42) for modelling the masking effects carried out on the difference

signal as to produce a modified difference signal, including means (41) for

producing an estimated value Ne of the loudness of the noise present in the

returned signal, and means (42) for carrying out a noise suppression on the

difference signal using said produced estimated value Ne, and for producing

the modified difference signal D'(t,f); and integrating means (43) for integrating

the modified difference signal with respect to frequency and time as to produce

the quality signal q (see figure 3).

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C..103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or
> described as set forth in section 102 of this title, if the differences between the subject
> matter sought to be patented and the prior art are such that the subject matter as a whole
> would have been obvious at the time the invention was made to a person having ordinary
> skill in the art to which said subject matter pertains. Patentability shall not be negatived by
> the manner in which the invention was made.

4.   Claims 3, 4, 10 and 11 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Appel et al.

    -Regarding to claims 3 and 10, Appel et al does not disclose whether the

silence period is provided at the start of the reference speech signal s(t), as

claimed.

    However, Appel et al teaches that the silence period is happened during

the occurrence of the speech signal s(t) and able to be set and determined via

the silence of the talker in the speech (see [0025]).

It would have been obvious for a person skilled in the art, within his

skills, for the purpose of measurement the talking quality, to choose setting at

least a silent period at the start of the speech signal s(t) and subsequent silent

periods during the speech signal so that the noise value (Ne) can be estimated,

as required, by being based on these silent periods.

-Regarding to claims 4 and 11, Appel et al does not teach whether the

silence period has a duration of at least 0.5 sec, more preferably at least 0.9

sec.

However, since Appel et al teaches that in the measurement, the speech

signal can be processed in frame-wise of length between 10 and 100 ms (see

[0019]) and Appel et al is silent about the duration the silence period, it would

have been obvious for a person skilled in the art, within his skills, to choose the

speech signal to be processed in frames of length, e.g. 100 ms, and set the

silence period equal multiple of frames, (so that it would be captured easily for

processing), e.g., set the silence period equal 0.5 sec, so that the noise value

(Ne) can be estimated, as required, by being based on said silent period.

Conclusion

5.   The prior art made of record and not relied upon is considered pertinent

to applicant's disclosure. References (2004/0042617), (2003/0115041) and

(2005/0159944) are additionally cited because they are pertinent to the

claimed method and associated system.

Any inquiry concerning this communication or earlier communications

from the examiner should be directed to Sanh D. Phu whose telephone number

is (571)272-7857. The examiner can normally be reached on M-Th from 7:00-

17:00.

If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, Matthew D. Anderson can be reached on (571) 272-

4177. The fax phone number for the organization where this application or

proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from

the Patent Application Information Retrieval (PAIR) system. Status information

for published applications may be obtained from either Private PAIR or Public

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Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-

9197 (toll-free). If you would like assistance from a USPTO Customer Service

Representative or access to the automated information system, call 800-786-

9199 (IN USA OR CANADA) or 571-272-1000.

Sanh D. Phu
Examiner
Division 2618

11/27/06

SP

SANH D. PHU
PATENT EXAMINER